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Jeffrey M. Amsden

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EXAMINER

LEUNG, JENNIFER A

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Art Unit: 1797

Continuation of Item 11.

The request for reconsideration has been considered, but it does not place the application in condition for allowance, for the same reasons set forth in the final Office Action.

Applicant (see Remarks) argues that there would have been no motivation to introduce the axially oriented variations, i.e., grooves, of Beck into the monoliths of Carmello et al. Applicant also argues that the combination would have been based on improper use of hindsight.

The Examiner respectfully disagrees.

Carmello et al. discloses Applicant's same multi-tubular reactor, but fails to disclose the axially oriented variations, e.g., grooves, about the circumference of the monolithic structures within the reactor tubes. However, Carmello et al. is particularly concerned with enhancing heat transfer.

Beck teaches the provision of axially oriented variations, e.g., grooves, about the circumference of a monolithic structure that is inserted within a tube disposed within a reservoir of heat transfer fluid. The axially oriented variations are added to enhance heat transfer.

One of ordinary skill in the art would have been capable of applying a known technique (i.e., the provision of axially oriented variations for enhancing heat transfer) to a known device that was ready for improvement (i.e., the monoliths in the multi-tubular reactor of Carmello et al.), and the results (i.e., enhanced heat transfer in the multi-tubular reactor) would have been predictable to one of ordinary skill in the art. *KSR International Co. v. Teleflex Inc.*, 550 U.S. --, 82 USPQ2d 1385 (2007).

Furthermore, one having ordinary skill in the art would have been motivated to make the combinations, since the axially oriented variations would help improve heat transfer performance in a number of ways, as taught by Beck (see, e.g., column 1, line 68 to column 2, line 9).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In addition, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER A. LEUNG whose telephone number is (571) 272-1449. The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer A. Leung/
Primary Examiner, Art Unit 1797